

REMARKS

Claims 1-11, 14-15 and 17-90 are pending in the application. Claims 1-11, 14-15 and 17-21 are presented for examination; claims 22-90 have been withdrawn. Claims 1 and 11 are amended herein; support for these amendments is found throughout the specification as filed, for example at paragraphs 11-12, 80-107, and 150-162 (Example 2) (citations to the specification refer to the publication US 2005/0026037). Claims 12, 13, and 16 are cancelled herein without prejudice.

Applicants note with thanks the indication in the Final Office Action that claims 2-4 and 13-15 would be allowable if rewritten in independent form.

The rejections in the Final Office Action of December 4, 2008 are addressed individually below.

Rejection under 35 U.S.C. §102

Claims 1, 5, 6, 10, 11, 12, 16, 17, and 21 were rejected under 35 U.S.C. §102(e) as being anticipated by Chiang *et al.* (US Patent Application Publication No. 2003/0082446; “Chiang”). Applicants respectfully traverse this rejection.

Applicants’ independent claims 1 and 11 are directed to bipolar articles having an arbitrary form factor, wherein the bipolar article as a whole has an overall form that is not cylindrical or prismatic. Exemplary bipolar articles having overall forms that are not cylindrical or prismatic are described and shown in the specification, for example at FIGS 2, 3, 6A, and 6B. These bipolar articles as a whole have an arbitrary shape or form factor.

Bipolar articles having such overall non-cylindrical or non-prismatic forms are not described or shown in Chiang. The Final Office Action cites Figures 3A-D and paragraph 53 of Chiang, which indicates that “[a] bipolar device having structures of **reticulated interface** can be tailored for the purposes of controlling and optimizing charge and discharge kinetics” (December 4, 2008 Final Office Action, pages 2-3). The Office Action also cites paragraph 54 of Chiang, which states that “[i]n the present invention, “**reticulated interface**” or “interdigitated electrode” refers to a battery 10 that has a structure, such as a positive and/or a negative electrode 12 and 14 each of which can be connectable to a current collector 30 everywhere, including cases where the positive and negative electrodes serve as their own current collector

and having a morphology such that the **surface exposed is reticulated**, having convexities 26 or protrusions 28 and, correspondingly, concavities or indentations, sufficient to produce features with a thickness or width that is less than the maximum thickness or width of each electrode” (December 4, 2008 Final Office Action, page 6). The Final Office Action asserts that these passages of Chiang disclose that “the exposed surface has an overall arbitrary form factor that is not necessarily cylindrical or prismatic” (December 4, 2008 Final Office Action, page 6).

Applicants respectfully submit that the Final Office Action misinterprets the reticulated interface between the electrodes as representing the overall exterior surface of the **bipolar article as a whole**. As described in the cited paragraphs 53 and 54, and as shown in Figures 3A–D, the electrodes in Chiang are reticulated at their interior interface, where they are “exposed” only to electrolyte (see also, for example, Chiang paragraph 52). The reticulated interface comprises convexities or protrusions and corresponding concavities or indentations “extending into and in ionic communication with electrolyte matrix 16” (Chiang paragraph 52). That is, the reticulated interface relates only to the interior interface between the electrodes, which **does not affect** the overall form of the bipolar article as a whole.

Without acquiescing in the propriety of the rejection, claim 1 is amended herein to clarify this distinction and specify that the bipolar article having an overall form that is not cylindrical or prismatic “has a thickness that varies over a length scale that is independent of any length scale of the internal electrode structure of the article.” Support for this amendment is found throughout the specification as filed, for example at paragraph 11. For at least this reason, Applicants respectfully submit that the combination of elements recited in independent claim 1 is patentably distinguishable over Chiang. Dependent claims 2-10, which recite additional limitations to the independent claim, are likewise distinguished.

Also without acquiescing in the propriety of the rejection, claim 11 is amended herein to incorporate the limitation of claim 13 regarding self-assembling networks of particles. Applicants thank the Examiner for the acknowledgement that this subject matter is allowable (December 4, 2008 Office Action, pages 4-5). Applicants respectfully submit that dependent claims 14-15 and 17-21, which recite additional limitations to amended claim 11, are likewise not taught by Chiang, and that the rejection of claim 11 and its dependents under §102(e) is overcome by the amendment of claim 11 herein.

Accordingly, reconsideration and withdrawal of the §102(e) rejection is respectfully requested.

Rejection under 35 U.S.C. §103

Claims 7–9 and 18–20 were rejected under 35 U.S.C. §103(a) as being obvious over Chiang in view of Lanni (US Patent No. 5,949,213). Applicants respectfully traverse this rejection.

Claims 7–9 and 18–20 depend from claims 1 and 11, respectively, and recite that the bipolar article is conformal with a surface (claims 7 and 18) or space-filling within a cavity of a device (claims 8 and 19), or identify specific types of devices (claims 9 and 20).

As discussed above, Chiang does not disclose or suggest a bipolar article that “as a whole has an overall form that is not cylindrical or prismatic” as recited in independent claims 1 and 11. Lanni does not fill this deficiency of Chiang. Lanni also does not disclose a bipolar article that “has a thickness that varies over a length scale that is independent of any length scale of the internal electrode structure of the article” (amended claim 1) or a bipolar article “wherein the anode and cathode are self-assembling networks of particles disposed in the electrolyte, the cathode current collector is attractive to the cathode network and repulsive to the anode network, and the anode current collector is attractive to the anode network and repulsive to the cathode network” (amended claim 11). Accordingly, Applicants submit that claims 7–9 and 18–20 are not obvious over Chiang in view of Lanni, at least because the references in combination do not teach or suggest every element of the claims. Thus, Applicants respectfully request reconsideration and withdrawal of the §103 rejection.

Conclusion

In view of the above amendments and remarks, it is respectfully believed that the objections and rejections in the Final Office Action of December 4, 2008 have been overcome and that all of the pending claims are in condition for allowance.

If the Examiner believes that a telephone interview would help expedite the successful prosecution of the claims, the Examiner is encouraged to telephone the undersigned at the number listed below.

Application No. 10/628,681
Request for Continued Examination and
Response to Final Office Action dated December 4, 2008

Docket No.: 0112903.00128US2

Please deduct the \$405.00 fee for the present Request for Continued Examination from our Deposit Account No. 08-0219. No other fee is believed to be due in connection with this response; however, should a fee be required, please charge to Deposit Account No. 08-0219.

Respectfully submitted,
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